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Bonnie K. Pearson

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A SCHOLASTIC COMPARISON OF WOMEN PHYSICAL EDUCATION
TRANSFER AND NON-TRANSFER STUDENTS IN NORTH DAKOTA

by

Bonnie K. Pearson

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of the

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Title A SCHOLASTIC COMPARISON OF WOMEN PHYSICAL EDUCATION
TRANSFER AND NON-TRANSFER STUDENTS IN NORTH DAKOTA

Department Physical Education

Degree Master of Science

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ABSTRACT

The purpose of this study was to determine whether North Dakota women physical education transfer students could succeed as well, scholastically, as the non-transfer women. Women physical education transfer students were compared before and after changing schools to determine scholastic success.

The subjects were selected by several criteria: (1) graduation with a physical education major; (2) graduation from a North Dakota college or university; (3) graduation between September 1, 1969, and June 11, 1971; (4) graduation from a North Dakota high school; (5) permission granted to review transcripts; (6) transfer from a North Dakota institution with a minimum of forty-five quarter or thirty semester credit hours. The final sample included 28 transfer women physical education students and 66 non-transfer students.

Comparisons were made between the groups as a whole and between sub-groups. The "t" technique was used to test each comparison for significance at the .05 level. There was no difference between the records of transfer and non-transfer women physical education majors. However, there were significant differences between the grade-point averages earned by the women physical education transfer students before and after changing schools. Some of these differences were attributable to: (1) the type of institution attended before changing schools, and (2) the institution from which graduation occurred.

It was concluded that women physical education transfer students were able to succeed scholastically at North Dakota institutions as compared to the non-transfer students. However, transfer women went through a transition after changing schools. The students changed schools because they expected to be successful scholastically at the new institution. Differences in grading standards were noted between North Dakota institutions.

CHAPTER I

INTRODUCTION

Statement of the Problem

The problem explored in this study was a comparison of the scholastic success of transfer and non-transfer women physical education majors at the North Dakota colleges. The basic question considered was whether or not students, who had transferred from a junior college or a four year college in North Dakota, succeeded as well, scholastically, as the non-transfer students. In order to obtain data which would contribute to an adequate answer to this basic question, information was sought which would provide answers to the following specific questions:

1. How did the scholastic success of transfer students after transfer compare with their success before transfer?
2. What differences in scholastic success of the transfer student, if any, existed between the first quarter or semester after transfer and the rest of the period after transfer?
3. Did the transfer students do as well scholastically the first quarter or semester after transfer as they did before transfer?

4. How did the scholastic success in physical education of transfer students before transfer compare to their success in physical education after transfer?
5. What differences, if any, existed between the scholastic success in physical education of transfer and non-transfer students?
6. What differences existed between the overall scholastic success of transfer and non-transfer students?
7. Was there a difference between the transfer and non-transfer students when they were compared by the number of credit hours needed for graduation?
8. Were there any differences in the scholastic success of transfer students attributable to the type of college from which transfer was made?
9. Were there any differences in the scholastic success of transfer students attributable to the college from which the students graduated?

Nature and Explanation of the Problem

Increased attention has been directed toward the scholastic success of transfer students in American universities and colleges. Davison (1) stated:

The work of the transfer students in the upper division, when compared with that of non-transfer students, has been considered by many to be the crucial test of the preparatory function of the junior college and the pre-professional curricula of other institutions of higher education.

No verification of the scholastic success of the transfer was found for the women physical education majors in North Dakota. Thus,

the purpose of this study was to compare the scholastic success of the transfer and non-transfer women physical education majors in North Dakota. More specifically, this investigation attempted to determine if the transfer and non-transfer students differed by: (1) school attended before transfer and (2) school after transfer.

Scope and Limitations

This study included women who graduated from a North Dakota college with a physical education major between the dates of September 1, 1969, and June 11, 1970. They were also the most recent graduating classes, which made it easier to contact each student and obtain their records. Characteristically, each of the transfer students had: (1) graduated from a North Dakota high school, (2) transferred from a North Dakota junior college or university, (3) transferred to a North Dakota college or university, (4) earned a minimum of forty-five quarter credit hours or thirty semester credit hours before transfer, and (5) permission was granted to review transcripts.

Sources of Information

The sources of information for the study were the Office of the Registrar, and Women's Physical Education Departments of each college in North Dakota. The files available in each office were used according to their accessibility.

Need and Purpose of the Study

Holmes (2) stated:

There are conflicting reports on the success or lack of success of transfer students among the various colleges. . . .

Each institution must validate its success or lack of it with transfer students by and through its own records, experience and research.

In North Dakota, the number of women transferring from one college to another in the area of physical education, like other disciplines, has increased. In 1970, twenty-three of the seventy graduating women physical education majors were transfer students. Of the fifty who graduated in 1971, thirty-one were transfer students.

Proof was not available to substantiate whether the women physical education majors who transferred were able to succeed at the North Dakota colleges. This study should provide evidence as to whether the scholastic performance of the transfer student compared favorably or not to that of the non-transfer.

The study should provide information of interest in the areas mentioned here. First, it should produce information valuable to advisors of students who plan to transfer. Second, the study should show whether the women's physical education departments in the state need to organize the curricula of their departments in such a way as to help the transfer student. Third, the conclusions should reveal information that could be considered by the junior colleges and colleges in the development of policies for transfer students.

Definition of Terms

Transfer Students.--Women who had a minimum of forty-five quarter credits or thirty semester hours before going to another college.

Non-Transfer Students.--Enrollees who completed all studies at one college or university.

Junior College.--A North Dakota institution that offered a maximum of the two-year pre-professional curricula.

College or University.--Bachelor's degree-granting institution existing within the state of North Dakota.

Scholastic Success.--The students' grade-point averages as they indicated academic performance while they persisted toward graduation.

Grade-Point Average.--Numerical evaluation of scholastic achievement based on the ratio of credit hours to honor points. Honor points were based on the following: A=4; B=3; C=2; D=1; F=0; WF=0; WP=Withdrawn passing.

Related Literature

The controversy over the respective merits of the non-transfer student versus the transfer student has provided material for many studies. The early results generally afforded evidence that the transfer students were at least as good as, if not better than, the non-transfer, scholastically. The criterion generally used was the academic success or performance of transfer students and their performance prior to transferring.

Research on this problem during the years 1915 to 1930 was summarized by Eells (3) in this way:

These studies vary widely in character and reliability. Some are little more than bare statements of opinion; some are based upon a careful statistical treatment of adequate data. On the whole they show marked success for the junior college in the exercise of preparatory function. The University of Texas and the University of California seem to be the only institutions where there is a marked inferiority, and in the latter case there was distinct superiority on the part of the men. It is quite significant of the success of the junior college in its preparatory function that there is such a variety of judgment and evidence in its favor.

Studies Comparing Transfer and Non-Transfer Students

Research has been done since 1930 on the comparison of the scholastic success of transfer and non-transfer students in higher education at many institutions. The findings of these studies provided evidence that the junior college transfer succeeded. The scholastic success of the junior college transfer student was, in some cases, below that of the native students. Other writers found the scholastic record of the transfer student equal to or better than the non-transfer. Studies by Johnson (4), Turnipseed (5) and Lahti (6) compared the junior college transfer and non-transfer students with no respect to subject areas.

In 1961, Lahti (6) compared the scholastic success of 209 transfer students and a matched group of 209 non-transfer students at the University of Wyoming. He concluded that there were "no significant differences in ability found between the two total samples when tested at the .05 level."

Johnson (4) and Turnipseed (5) compared the academic records of junior college transfer students to the records of an equated group of non-transfer students at the University of Missouri and the University of Southern Mississippi respectively. Both found no significant differences between the two groups. However, Turnipseed reported that the native students had a higher academic record of success.

A few studies have appeared in specific subject fields. Most writers investigated the success or failure of transfer students as they compared to non-transfer students. No studies were found making these comparisons in the field of physical education. Although several of the reviewed studies revealed the success of the transfer, others

found a difference between the transfer and non-transfer. Congdon (7), Grossman (8), Martorana and Williams (9), Hartman (10), Klitzke (11), and Davison (1) studied this type of problem.

Congdon (7) investigated the academic records of 3052 engineering students. The students were divided into three groups for study, which included 2039 from high school, 258 from junior college, and 755 transferring from four-year institutions other than the University of Michigan. He found:

Students entering the junior year of the Engineering College at the University of Michigan from junior colleges of the state have higher scholastic achievement than students who enter by other routes. . . . These junior college entrants maintained their scholastic superiority throughout their junior-senior years of college work.

Grossman (8) studied the scholastic success of 659 transfer students. These students included 164 from public junior colleges, 77 from private junior colleges, 235 from liberal arts colleges, and 183 from other universities. Grossman (8) found:

From the facts presented in this report it may be said that without doubt junior college graduates are able to pursue advanced college courses in the junior and senior years at the University of Illinois with a degree of proficiency equal to and in some cases superior to that of students who have received their first two years of training in standard colleges and universities.

Martorana and Williams (9) studied 251 junior college transfers and 251 native students at the State College of Washington. These two groups were matched on the basis of sex, major area of study, veteran status, size of school attended, and year in college. The most significant increase in grade-point average was made by the transfer students in the area of engineering and physical science. The transfer student also achieved a higher grade-point than the matched non-transfer in business administration.

Hartman (10) compared the scholastic success of a selected group of transfers from four-year institutions and junior colleges with the success of a matched population of native students at the University of Missouri. These groups were matched by size of high school graduating class, high school rank, sex, age at college entrance, and the college of the university chosen. Hartman (10) concluded:

1. There was a significant difference in grade-point averages in the College of Education for the first and second semesters.
2. There was no difference between the transfer and non-transfer students in Business and Public Administration.
3. Transfer students from four-year institutions perform better than junior college transfers.

Two hundred and thirty one junior college transfer and 231 non-transfer students were compared by Klitzke (11) at Colorado State College at Greeley. Klitzke termed 78.35 per cent of the 231 junior college transfer students successful because they graduated. The students were successful academically, however, they were not as successful as native students when tested by eleven different variables.

Davison (1) compared the scholastic success of 222 transfers from two-year colleges and four-year colleges to a matched group of 222 non-transfer students at the University of North Dakota. He concluded "Those students persisting did so with similar academic success during the last three semesters." The four-year transfer in the College of Education approached significance when compared to the two-year transfer. This was also true when the two-year transfers in the College of Science, Literature and Arts were compared to the non-transfer students. There was very little difference found between the two groups in the colleges of Business and Public Administration and Engineering.

Grading Standards of Different Institutions

Grade-point averages were assumed to measure scholastic success.

Hoyt (12) stated:

It is senseless to debate whether or not college grades are important. Obviously, they are. This can easily be established by reviewing typical college policies on such matters as probation and dismissal, eligibility for financial aid, participation in honors or similar "special" programs, acceptance into professional or graduate schools, and employment recommendations.

Grading standards, however, differed from instructor to instructor and college to college. Studies by Gerberich and Kerr (13), Lahti (6), Hartman (10), and Knoell and Medsker (14) provided evidence that there was a difference in the grade-point averages earned by the transfer students before and after they transferred. Some of the authors attributed this difference to grading in the junior college being higher than the colleges and universities.

Gerberich and Kerr (13) studied 215 transfer students who had approximately two years of junior college work as compared to an equated 436 non-transfer students at the University of Arkansas.

They concluded:

1. The junior college transfers made much higher grade-point averages in the junior colleges than did the comparable group of university entrants in the university.
2. The native university students maintained higher scholastic averages than did the junior college transfers for every semester in the university. Although the margin of difference is shown to be smaller for the last two semesters than for semesters five and six.
3. These findings do not indicate superior abilities on the part of the transfer students, but rather are probably the result in large measure of institutional differences in grading standards.

Lahti (6) found no significant difference between the scholastic success of 209 matched transfer and non-transfer students at the University of Wyoming. He stated, however, "There did appear to be some difference in grading standards among some of the junior colleges and the University of Wyoming."

Hartman's (10) study included transfer and non-transfer students at the University of Missouri. He found that the grade-point averages of the transfer students from junior colleges dropped during the semester immediately following transfer, but recovered in succeeding semesters.

Knoell and Medsker (14) studied approximately 9000 transfer students from junior colleges who transferred to four-year colleges and universities in ten states. They found: "Cumulative averages, at the four-year colleges were generally lower than the junior college averages, but reflected steady improvement following the first-term loss immediately after transfer."

A Comparison of the Number of Credit Hours Needed to Graduate

Another question of interest was: Did any of the groups take a greater amount of time to finish their entire course of study than did others? Scholarship was the most important method of judging success, those who had higher scholastic records were termed more successful. However, the advantage gained by higher scholarship would be somewhat invalidated if these students took longer to graduate than those with lower scholarship. Congdon (7), Klitzke (11), and Knoell and Medsker (14) included this problem in their studies.

Congdon (7) investigated this problem by using the records of 2,039 non-transfer students, 258 junior college transfer students and

755 transfer students from colleges other than the University of Michigan.

He concluded:

The junior college students do not suffer seriously in the matter of the time required to finish their course owing to the period of adjustment at the mid-college transfer point. Compared with transfers from higher institutions other than junior colleges, they are able to finish their course in a considerably shorter time.

This became significant when it was realized that the junior college group had at the same time maintained consistently higher scholarship than either of the other groups.

Klitzke (11) selected 231 junior college transfer students and 231 matched non-transfer students in the College of Education at the Colorado State College of Greeley. He compared the number of hours each group required to graduate, and concluded:

The transfer group earned a significantly greater number of quarter hours of credit after completing the twelfth quarter (expected time of graduation) than did the native group. On the other variables considered there was no significant differences between the two groups.

Approximately nine thousand junior college transfer students were studied by Knoell and Medsker (14). These transfers were obtained from a sample of 41 four-year colleges and universities in ten different states. They studied the junior college transfer for two years after transfer. At the end of that time only 45 percent of the transfer students had graduated from a four-year college. Thirty-one percent were still going to college and 24 percent were no longer enrolled. The 31 percent still enrolled after two years of college work were required to take more work than the usual four years.

Summary of Related Literature

In summary it can be said that the transfer students has the scholastic ability to succeed in advanced college work. The transfer student was also able to succeed at the same rate as the non-transfer. Significant differences were found between the transfer and non-transfer for the first two years. Many of the writers attributed the higher grade-point averages of the junior college transfer to differences of grading standards in the junior colleges and universities.

The reports were conflicting when a comparison was made between the transfer and non-transfer students on the number of credit hours required to graduate. Congdon found there was no difference, Klitzke found a significant difference, and Knoell and Medsker found that 45 percent did not have to take extra credits.

CHAPTER II

METHODOLOGY

Introduction

The purpose of this study was to compare the scholastic success of transfer and non-transfer women physical education majors at the North Dakota colleges. It involved an appraisal of academic success of transfer women physical education majors as compared to non-transfer women majors at the North Dakota colleges and universities. The following presents in detail the procedure and analysis of the data.

Collection of Data

The women physical education majors had to graduate from a North Dakota college or university. Only those women who graduated between the dates September 1, 1969 and June 11, 1971, were used for this study. The names of the women who met the above criteria were obtained from the women's physical education departments. Records from North Dakota colleges and universities included those from: Dickinson State College, Jamestown College, Mayville State College, Minot State College, North Dakota State University, University of North Dakota, and Valley City State College.

There were 174 individuals who graduated between the dates. These 174 were placed on worksheet, a sample found in Appendix A, page 50. This worksheet was used by the writer during the time the student's permanent records were located.

When the process of obtaining the permanent records was completed, information from the available transcripts was recorded on 5"x10" card. A copy may be found in Appendix B, page 53. This card was designed by the writer for the gathering of the data.

Certain parts of the information gathered pertained to both the transfer and non-transfer students. These parts provided a means of comparing the transfer and non-transfer. The information obtained for all students was: (1) grade-point average for each quarter or semester, (2) cumulative physical education grade-point average, (3) cumulative grade-point average for all work completed at graduation, and (4) the number of credit hours obtained at the time of graduation.

Other parts of the data collected pertained only to transfer students. This information was gathered to compare the records of the transfer student before and after transfer. The following information was gathered which pertained only to transfer students: (1) name of school from which they transferred, (2) number of credits transferred, (3) physical education grade-point before transfer, (4) physical education grade-point after transfer, (5) grade-point average before transfer, and (6) grade-point average after transfer.

The information was obtained from the registrar's offices or women's physical education departments in the college and universities of North Dakota. Availability of the files determined which files were used.

Selection of the Sample

There were 174 women physical education majors who graduated from North Dakota colleges and universities between the dates selected. To

control the results of this study certain delimitations and limitations were used to control the students selected for the final sample.

Delimitations

The delimitations were one of the methods used to determine which women physical education students would be used in this study. The reasons for such delimitations were several and significantly related to the study.

All transfer and non-transfer women physical education majors had to graduate from a North Dakota college. Graduation had to occur between the dates of September 1, 1969, and June 11, 1971.

This study was a means of understanding the transfer problem, if any, of the women physical education students in North Dakota. Therefore, the students who graduated from the colleges in this specific state were the only ones of interest.

The dates selected included the students from the most recent graduating classes. These students were easier to contact to obtain any information needed.

There were delimitations which classified the women as transfer students. Delimitations used to classify these students included: (1) attended two or more North Dakota institutions, and (2) had earned a minimum of forty-five quarter or thirty semester credit hours before transfer.

The investigator hoped to discover the scholastic ability of both groups and then make comparisons between their achievement. Since the writer was concerned primarily with the state of North

Dakota only those who attended two or more colleges within the state were termed a transfer student.

To be classified as a transfer, a minimum of forty-five quarter or thirty semester credit hours had to be accumulated before transfer. This amount of credit hours constituted one year of academic work. The effects of transfer could be determined only when this minimum was met.

Any student who met the above delimitations were considered a transfer. The rest of the women physical education majors were classified as non-transfer students.

Included in the non-transfer group were some students who had attended a second college. The amount of credit hours, however, was less than the minimum set to classify the student as a transfer. The credits and grades received by these students were included in the grade-point averages computed.

Limitations

Several aspects of this study could not be controlled by the writer. These limitations were recognized as a part of the study, but had to be left as uncontrollable variables.

The size of high school the women physical education students attended and how they did scholastically at that level could have had an effect on their grade-point averages in further education. These aspects were not determined by this study. However, only those students who graduated from a North Dakota high school were used.

The writer was unable to control which students returned the permission cards or questionnaires. Permission was granted to see the transcripts by the registrar's office at Mayville State College. The

women's physical education departments at North Dakota State University and the University of North Dakota gave the permission to review transcripts in their files. Dickinson State College, Jamestown College, and Valley City State College required student permission before the transcript could be reviewed. The last college, Minot State College, required student permission plus a payment for each transcript.

Recording the student's records from these last two groups of colleges required special treatment. Letters were sent to those students who graduated from the colleges which required permission cards. The letter included the reasons for needing their permission. A sample may be found in Appendix C, page 54. A self-addressed card was enclosed to be returned to the writer. Only those who returned the card could be included in the sample.

Those women physical education majors who graduated from Minot State College were sent a questionnaire to keep this study within financial feasible limits. The questionnaire included questions on all the areas covered on the regular data cards. A detailed explanation of each part was sent with the questionnaire to eliminate different interpretations. Samples of these may be found in Appendix D, page 56. The writer had to accept the information returned by the students from this college as being correct.

Ninety-six letters and questionnaires were sent to the students. Thirty-one of the students returned the letter or questionnaire. This factor eliminated the other sixty-five women physical education majors from this study.

The delimitations set a minimum number of credit hours needed before changing schools to be classified as a transfer student. This

did not provide a method of determining whether the students attended the first institution one or two years.

There may have been students who changed major areas within the same institution. These students were considered non-transfer students, but the effect on their grade-point averages and credit hours would be similar to transfer student. This could possibly have affected the grade-point averages and credit hours needed for graduation. However, it must still be listed as a limitation of the study.

Analysis

Essentially, the basic criterion employed in this study for the appraisal and comparison of success was scholarship. The method, which measured the scholastic success of the transfer and non-transfer was computed by applying the analysis of co-variance to the grade-point averages for each group and sub-group.

The logic underlying this phase of the study depended upon the premise that the mean was an adequate measure of the central tendency of a distribution of scores. In this specific case, grade-point averages were used as indices of academic achievement. Thus the mean was a good measure of the group as a whole. Determination of the mean enabled one to compare the relative success of two or more related groups.

When the analysis of covariance was used a null hypothesis had to be determined. "Very simply, this hypothesis asserts that no difference exists between the two population means" (15). Specifically, the null hypothesis for this study was: there was no difference between the scholastic success of transfer and non-transfer women physical

education majors at the North Dakota colleges. Specific answers were sought by comparing the following data parts for the transfer: (1) a comparison of the grade-point average before and after transfer, (2) the grade-point averages before transfer compared to the first quarter or semester after transfer, (3) the grade-point averages after transfer compared to the first quarter or semester after transfer, and (4) a comparison of the physical education grade-point averages before and after transfer.

The comparisons were made between the groups as a whole and as sub-groups according to the different colleges. The transfer and non-transfer students' records were also compared to find an answer to the differences, if any, between the two groups. These comparisons were made between the following data parts: (1) the physical education cumulative grade-point average for the transfer and non-transfer, (2) cumulative grade-point average for the transfer compared to the cumulative average of the non-transfer, and (3) the number of graduating credit hours required for the transfer and non-transfer.

This study was done in an operational setting with very little control over the students. Because of this, the significance level for analysis was set at .05 for all comparisons made. A table of the "t" values used in this study may be found in Appendix E, page 61.

CHAPTER III

ANALYSIS OF THE DATA

The purpose of this study was to compare the scholastic success of transfer and non-transfer women physical education majors at the North Dakota colleges. Included in the study were 94 transfer and non-transfer students. For purposes of clarity, the results were divided into four parts. The first covered the composition and sources of the students. Then appeared comparisons of transfer and non-transfer students. Third, the transfer student's record was compared before and after transfer. Finally the students who transferred from four-year institutions were compared to those students who transferred from a junior college.

Composition and Source of Students

The sample began with 174 women. The delimitations and limitations brought this sample to 94 women who had graduated from a North Dakota college with a physical education major between the dates selected. Table 1 showed how many of the 94 transfer and non-transfer students graduated from each college in North Dakota.

Table 1 indicated the wide range in the number of women physical education students from each college. There were as many as thirty-four students, North Dakota State University, and as few as four students, Jamestown College.

TABLE 1

WOMEN PHYSICAL EDUCATION TRANSFER AND NON-TRANSFER STUDENTS GRADUATING
FROM EACH COLLEGE

| | Transfer | Non-Transfer | Total |
|-------------------------------|----------|--------------|-------|
| Dickinson State College | 1 | 6 | 7 |
| Jamestown College | 0 | 6 | 7 |
| Mayville State College | 4 | 11 | 15 |
| Minot State College | 2 | 5 | 7 |
| North Dakota State University | 5 | 29 | 34 |
| University of North Dakota | 5 | 9 | 14 |
| Valley City State College | 11 | 2 | 13 |
| Total | 28 | 66 | 94 |

There was also a difference between the number of students in each of the two groups, transfer and non-transfer. There were twenty-eight transfer students and sixty-six non-transfer students.

Table 2 showed how many of the twenty-eight women physical education students transferred from each institution. The colleges to which they transferred also appeared in the table.

It may be seen that the largest number of students to transfer from one college was five. These five transferred from Wahpeton State School of Science. During the time element in this study, no students transferred from Mayville State College, University of North Dakota or Valley City State College. The remainder of the institutions had one to four students who transferred. Seventeen of the twenty-eight transfer students were from junior colleges and eleven were from four-year colleges or universities.

TABLE 2

SCHOOLS TO AND FROM WHICH THE WOMEN PHYSICAL EDUCATION STUDENTS TRANSFERRED

| | Dickinson State College | Jamestown College | Mayville State College | Minot State College | North Dakota State University | University of North Dakota | Valley City State College | Total |
|--------------------------------------|-------------------------------|----------------------|------------------------------|---------------------------|-------------------------------------|----------------------------------|---------------------------------|-------|
| Bismarck JC* | 1 | | | | 1 | 2 | | 4 |
| Bottineau JC* | | | 1 | | | | | 1 |
| Devils Lake JC* | | | 1 | | | | 2 | 3 |
| Dickinson State** | | | | | 2 | | | 2 |
| Jamestown** | | | | | 1 | 2 | | 3 |
| Mayville State** | | | | | | | | 0 |
| Minot State** | | | | | 1 | 1 | | 2 |
| North Dakota State** | | | | | | | 4 | 4 |
| University of North Dakota** | | | | | | | | 0 |
| UND--Ellendale* | | | 1 | | | | 1 | 2 |
| Wahpeton State School of Science* | | | 1 | | | | 4 | 5 |
| UND--Williston* | | | | 2 | | | | 2 |
| Valley City State** | | | | | | | | 0 |
| Total | 1 | 0 | 4 | 2 | 5 | 5 | 11 | 28 |

22

*Denotes college granting less than a bachelor's degree.

**Denotes bachelor's degree-granting institution.

Differences in the Women Physical Education
Transfer and Non-Transfer Students

The records of the women physical education transfer and non-transfer students were compared to determine the differences, if any, between the two groups. The comparisons were made for the two groups as a whole and by sub-groups, according to the type of institution attended before changing schools and the institutions from which the women physical education majors graduated.

Cumulative grade-point averages for transfer and non-transfer women physical education majors were compared in Table 3. The comparisons were made between the averages of (a) all transfer and non-transfer women; (b) junior college transfer women and all non-transfer women; and (c) transfer women from four-year institutions and all non-transfer women.

TABLE 3

CUMULATIVE GRADE-POINT AVERAGES FOR WOMEN PHYSICAL EDUCATION TRANSFER
AND NON-TRANSFER STUDENTS

| | Number | Mean | t Value |
|-------------------------------------|--------|--------|---------|
| All transfer students | 28 | 2.8317 | .916 |
| Non-transfer students | 66 | 2.7561 | |
| Junior college transfer students | 17 | 2.9124 | 1.557 |
| Non-transfer students | 66 | 2.7561 | |
| Four-year college transfer students | 11 | 2.6636 | .831 |
| Non-transfer students | 66 | 2.7561 | |

Table 3 illustrated the grade-point difference between the non-transfer and the transfer women physical education students. Grade-point averages for each type of transfer students was also compared to

the whole group of non-transfer students. There were no significant differences shown for all transfers and all non-transfer students' grade-point averages. There was no difference between the grade-point averages of the non-transfer women physical education majors and the transfer students from each of the two types of institutions. The grade-point averages of the non-transfer also showed no significance when compared to the two types of transfer students.

Cumulative grade-point averages for the transfer and non-transfer women physical education majors who graduated from each college were compared in Table 4. The table included the number of students from each college, the mean grade-point averages and the "t" value for each comparison.

TABLE 4

CUMULATIVE GRADE-POINT AVERAGES FOR WOMEN PHYSICAL EDUCATION
TRANSFER AND NON-TRANSFER STUDENTS BY COLLEGES

| | Number | Mean | t Value |
|-----------------------|--------|--------|---------|
| <u>Mayville</u> | | | |
| Transfer students | 4 | 2.9650 | 1.553 |
| Non-transfer students | 11 | 2.6509 | |
| <u>Minot</u> | | | |
| Transfer students | 2 | 2.770 | .521 |
| Non-transfer students | 5 | 2.852 | |
| <u>NDSU</u> | | | |
| Transfer students | 5 | 2.7360 | .594 |
| Non-transfer students | 29 | 2.6483 | |
| <u>UND</u> | | | |
| Transfer students | 5 | 2.6540 | .311 |
| Non-transfer students | 9 | 2.8200 | |
| <u>VCSC</u> | | | |
| Transfer students | 11 | 2.9491 | .451 |
| Non-transfer students | 2 | 3.0650 | |

Table 4 showed the comparisons made, by college, between the cumulative grade-point average of the women physical education transfer and non-transfer majors. The colleges which had enough transfer students to make the computations were used for this comparison. There were differences in mean grade-point averages for non-transfer and transfer students, by colleges. The "t" values, however, were not significant.

Cumulative physical education grade-point averages were used to make the comparisons in Table 5. The records of all women physical education transfers and all non-transfer students were used. Grade-point averages for all the non-transfer women physical education students were also compared to the averages of transfer women from each of the two types of institutions.

TABLE 5

PHYSICAL EDUCATION CUMULATIVE GRADES FOR ALL WOMEN PHYSICAL
EDUCATION TRANSFER AND NON-TRANSFER STUDENTS

| | Number | Mean | t Value |
|-------------------------------------|--------|--------|---------|
| All transfer students | 28 | 3.1953 | .067 |
| Non-transfer students | 66 | 3.2005 | |
| Junior college transfer students | 17 | 3.1965 | .041 |
| Non-transfer students | 66 | 3.2005 | |
| Four-year college transfer students | 11 | 3.1936 | .060 |
| Non-transfer students | 66 | 3.2005 | |

The mean grade-point averages for each of the comparisons were close, within .069 of each other. Because of this, the "t" value was insignificant for each of the comparisons.

Cumulative physical education grade-point averages for the women physical education transfer and non-transfer students were compared in

Table 6. The comparisons were made for each college from which graduation occurred.

TABLE 6

PHYSICAL EDUCATION CUMULATIVE GRADES BY COLLEGE FOR WOMEN PHYSICAL
EDUCATION TRANSFER AND NON-TRANSFER STUDENTS

| | Number | Mean | t Value |
|-----------------------|--------|--------|---------|
| <u>Mayville</u> | | | |
| Transfer students | 4 | 3.0025 | .040 |
| Non-transfer students | 11 | 3.0100 | |
| <u>Minot</u> | | | |
| Transfer students | 2 | 3.305 | .035 |
| Non-transfer students | 5 | 3.478 | |
| <u>NDSU</u> | | | |
| Transfer students | 5 | 3.3080 | 1.009 |
| Non-transfer students | 29 | 3.1821 | |
| <u>UND</u> | | | |
| Transfer students | 5 | 3.0340 | .637 |
| Non-transfer students | 9 | 3.1778 | |
| <u>VCSC</u> | | | |
| Transfer students | 11 | 3.2845 | .496 |
| Non-transfer students | 2 | 3.3700 | |

The "t" values showed no significance. There were no differences between the physical education cumulative grade-point of the transfer and non-transfer women physical education students at the different colleges.

Shown in Table 7 were the mean comparison and "t" value for women physical education transfer and non-transfer students to graduate. The criteria used was the number of credit hours required to graduate.

It may be seen that there was no significant difference between the number of hours required for all transfer and all non-transfer women physical education students. The comparisons of credit hours for

students according to type of college attended before transfer and all non-transfer students also shows no differences.

TABLE 7

MEAN NUMBER OF CREDIT HOURS NEEDED FOR ALL WOMEN PHYSICAL EDUCATION TRANSFER AND NON-TRANSFER STUDENTS TO GRADUATE

| | Number | Mean | t Value |
|-------------------------------------|--------|--------|---------|
| All transfer students | 28 | 193.64 | .103 |
| Non-transfer students | 66 | 192.80 | |
| Junior college transfer students | 17 | 194.12 | .326 |
| Non-transfer students | 66 | 192.80 | |
| Four-year college transfer students | 11 | 192.91 | .023 |
| Non-transfer students | 66 | 192.80 | |

Table 8 illustrated the differences in the number of credit hours required to graduate for the transfer and non-transfer students. The comparisons were made according to colleges from which the students graduated.

It may be noted that women physical education transfer students graduated from Mayville State College and Minot State College with a significantly higher number of credit hours than did the non-transfers from those colleges. There was no difference between the number of credit hours needed for transfer and non-transfer students at North Dakota State University, University of North Dakota, and Valley City State College.

In summary, it was noted that there were no differences when the three types of grade-point averages and the number of credit hours required to graduate for all women physical education transfer students

TABLE 8

MEAN NUMBER OF CREDIT HOURS NEEDED FOR WOMEN PHYSICAL EDUCATION
TRANSFER AND NON-TRANSFER STUDENTS, BY COLLEGE, TO GRADUATE

| | Number | Mean | t Value |
|-----------------------|--------|----------|---------|
| <u>Mayville</u> | | | |
| Transfer students | 4 | 200.25 | 1.852* |
| Non-transfer students | 11 | 189.45 | |
| <u>Minot</u> | | | |
| Transfer students | 2 | 199.00 | 3.668* |
| Non-transfer students | 5 | 186.20 | |
| <u>NDSU</u> | | | |
| Transfer students | 5 | 201.20 | 1.597 |
| Non-transfer students | 29 | 191.60 | |
| <u>UND</u> | | | |
| Transfer students | 5 | 188.80** | .465 |
| Non-transfer students | 9 | 186.44 | |
| <u>VCSC</u> | | | |
| Transfer students | 11 | 189.36 | .209 |
| Non-transfer students | 2 | 188.36 | |

*Significant "t" value

**UND credit hours converted to quarter hours

and all non-transfer students were compared. There were also no differences noted in grade-point averages and credit hours required to graduate attributable to the type of institution attended before changing schools.

It may be said that there were no differences in grade-point averages of women physical education transfer students and non-transfer students attributable to the college from which graduation occurred. However, there were two colleges where the women physical education transfer students had to take more credit hours to graduate than did the non-transfer students. These two institutions were Mayville State

College and Minot State College. At the other colleges, there was no significant difference in the number of credit hours needed for the transfer and non-transfer women physical education students to graduate.

Comparisons of Transfer Students' Records Before
and After Changing Schools

Several comparisons were made to determine how the women physical education transfer students did scholastically, before and after changing schools. The comparisons were made for the group as a whole, and for sub-groups according to the different colleges and for the type of institutions which the students attended first.

The comparisons in Table 9 were between the grade-point averages for first term after changing schools and the averages before transfer. The averages were compared for all transfer physical education students, for the junior college transfer students, and for the transfer students from four-year institutions.

TABLE 9

COMPARISON OF ALL THE WOMEN PHYSICAL EDUCATION TRANSFER STUDENTS MEAN
GRADE-POINT AVERAGE FOR FIRST TERM AFTER TRANSFER AND BEFORE TRANSFER

| | Number | Mean | t Value |
|--|--------|-------|---------|
| <u>All transfer students</u> | | | |
| First term | 28 | 2.690 | 2.801* |
| Before transfer | | 2.697 | |
| <u>Four-year college transfer students</u> | | | |
| First term | 11 | 2.848 | 2.396* |
| Before transfer | | 2.315 | |
| <u>Junior college transfer students</u> | | | |
| First term | 17 | 2.755 | .321 |
| Before transfer | | 2.944 | |

*Significant "t" value

There was a significant difference between the grade-point averages of all transfer students before changing schools and the first term at a new institution. The same was true when the grade-point averages of transfer women physical education students from four-year institutions were compared. There was no significant difference for this comparison of grade-point averages of junior college transfer women.

Table 10 showed the comparison of grade-point averages for women physical education majors for the first term after transfer and all terms before transfer. The comparison was made for transfer students according to colleges from which graduation occurred. The colleges which had enough students to make the computations included Mayville State College, North Dakota State University, University of North Dakota, and Valley City State College.

TABLE 10

FIRST TERM AFTER TRANSFER COMPARED, BY COLLEGES, TO THE MEAN GRADE-POINT AVERAGE BEFORE TRANSFER FOR WOMEN PHYSICAL EDUCATION MAJORS

| | Number | Mean | t Value |
|-----------------|--------|-------|---------|
| <u>Mayville</u> | | | |
| First term | 4 | 2.755 | 1.405 |
| Before transfer | | 3.045 | |
| <u>NDSU</u> | | | |
| First term | 5 | 2.250 | .544 |
| Before transfer | | 2.170 | |
| <u>UND</u> | | | |
| First term | 5 | 2.556 | .385 |
| Before transfer | | 2.176 | |
| <u>VCSC</u> | | | |
| First term | 11 | 2.973 | 1.401 |
| Before transfer | | 2.802 | |

No significant difference was noted when the grade-point averages for first term and for all work before transfer were compared by colleges. At Mayville State College and the University of North Dakota the grade-point average of the women physical education transfers went down for the first term after transfer. At North Dakota State University and Valley City State College the reverse was true.

The results of the grade-point averages were shown in Table 11 according to all women physical education transfer students and the students from each type of institution. The grade-point average for the first term after transfer was compared to the average of all the work done after transfer.

TABLE 11

FIRST TERM MEAN GRADE-POINT AVERAGE AFTER TRANSFER COMPARED TO THE
MEAN GRADE-POINT AVERAGE AFTER TRANSFER FOR WOMEN PHYSICAL
EDUCATION MAJORS

| | Number | Mean | t Value |
|--|--------|-------|---------|
| <u>All transfer students</u> | | | |
| First term | 28 | 2.690 | 4.789* |
| After transfer | | 2.880 | |
| <u>Four-year college transfer students</u> | | | |
| First term | 11 | 2.848 | 1.659 |
| After transfer | | 2.798 | |
| <u>Junior college transfer students</u> | | | |
| First term | 17 | 2.755 | 2.639* |
| After transfer | | 2.933 | |

*Significant "t" value

The grade-point averages of all women physical education transfer students and junior college transfer students were significantly higher for all college work than they were for the first term after changing

schools. The mean for the transfers from four-year colleges went down after the first quarter or semester. However, the decrease was not significant.

Grade-point averages were used in Table 12 to compare the women physical education transfer students for first term after transfer and all work after transfer. Transfer students were divided according to the colleges which they attended first.

TABLE 12

FIRST TERM MEAN GRADE-POINT AVERAGE AFTER TRANSFER COMPARED, BY COLLEGES, TO THE MEAN GRADE-POINT AVERAGE AFTER TRANSFER FOR WOMEN PHYSICAL EDUCATION MAJORS

| | Number | Mean | t Value |
|--|--------|----------------|---------|
| <u>Mayville</u> First term College | 4 | 2.755 2.820 | .507 |
| <u>NDSU</u> First term College | 5 | 2.250 2.840 | 3.371* |
| <u>UND</u> First term College | 5 | 2.556 2.702 | .953 |
| <u>VCSC</u> First term College | 11 | 2.973 3.055 | 2.478* |

*Significant "t" value

At North Dakota State University and Valley City State College the difference, as shown by Table 12, between the first quarter after transfer and all work after transfer was significant at the .05 level. No significant difference may be noted in the results at Mayville State College and University of North Dakota.

Table 13 showed the comparison of the grade-point for the women physical education transfer student before and after transfer. The three groups used for these comparisons were: (a) all transfer students; (b) junior college transfer students; (c) transfer students from four-year colleges.

TABLE 13

COMPARISON OF THE GRADE-POINT AVERAGES OF THE WOMEN PHYSICAL
EDUCATION TRANSFER BEFORE AND AFTER TRANSFER

| | Number | Mean | t Value |
|---|--------|-------|---------|
| <u>All transfer students</u> | | | |
| Before transfer | 28 | 2.697 | 3.435* |
| After transfer | | 2.880 | |
| <u>Four-year college transfer student</u> | | | |
| Before transfer | 11 | 2.315 | 9.968* |
| After transfer | | 2.798 | |
| <u>Junior college transfer student</u> | | | |
| Before transfer | 17 | 2.944 | .729 |
| After transfer | | 2.933 | |

*Significant "t" value

It was interesting to observe a significant difference for grade-point averages of four-year transfer students and all transfer students in women's physical education. These differences were in favor of the work done after transfer. Junior college transfer students had approximately the same grade-point average before and after transfer.

The comparisons in Table 14 were made for the transfer women physical education students according to the colleges from which graduation occurred. The grade-point averages for each group were compared before and after transfer.

TABLE 14

COMPARISON OF THE GRADE-POINT AVERAGES OF WOMEN PHYSICAL EDUCATION
TRANSFERS BEFORE AND AFTER TRANSFER BY COLLEGE

| | Number | Mean | t Value |
|-----------------|--------|-------|---------|
| <u>Mayville</u> | | | |
| Before transfer | 4 | 3.045 | .865 |
| After transfer | | 2.820 | |
| <u>NDSU</u> | | | |
| Before transfer | 5 | 2.170 | 14.667* |
| After transfer | | 2.840 | |
| <u>UND</u> | | | |
| Before transfer | 5 | 2.716 | .044 |
| After transfer | | 2.702 | |
| <u>VCSC</u> | | | |
| Before transfer | 11 | 2.802 | 3.053* |
| After transfer | | 3.055 | |

Significant differences were noted between the grade-point averages of graduates of North Dakota State University and Valley City State College. The differences between averages for graduates from Mayville State College and the University of North Dakota were not significant.

Table 15 presented the last comparison made which used the transfer grade-point average. It was related to grades in physical education before and after transfer. The groups of women physical education majors used included (a) all transfer students; (b) junior college transfer students; (c) transfer students from four-year colleges.

TABLE 15

COMPARISON OF THE PHYSICAL EDUCATION GRADE-POINT AVERAGE FOR THE
WOMEN PHYSICAL EDUCATION TRANSFERS BEFORE AND AFTER TRANSFER

| | Number | Mean | t Value |
|--|--------|-------|---------|
| <u>All transfer students</u> | | | |
| Physical education grades before | 28 | 3.268 | 2.207* |
| Physical education grades after | | 3.185 | |
| <u>Four-year college transfer students</u> | | | |
| Physical education grades before | 11 | 3.100 | 1.915* |
| Physical education grades after | | 3.210 | |
| <u>Junior college transfer students</u> | | | |
| Physical education grades before | 17 | 3.376 | 1.779* |
| Physical education grades after | | 3.169 | |

*Significant "t" value

There was a significant difference in grade-point averages before and after transfer for all women physical education transfers. The transfers from the junior colleges and all transfer students had a higher average before changing schools. The reverse was true for the transfer students from colleges or universities.

Table 16 showed the comparison of physical education grade-point averages for the women physical education transfer students before and after changing schools, by colleges. The number of students from each college, mean grade-point averages, and "t" values were recorded for each group.

This table showed that there were no significant differences, at any of the colleges, in physical education grade-point averages before and after transfer for the women physical education majors. It was interesting to note that the mean grade-point averages increased at

North Dakota State University and Valley City State College. At Mayville State College and University of North Dakota the mean grade-point decreased.

TABLE 16

COMPARISONS OF PHYSICAL EDUCATION GRADE-POINT AVERAGE FOR THE WOMEN
PHYSICAL EDUCATION TRANSFERS BEFORE AND AFTER TRANSFER
BY COLLEGE

| | Number | Mean | t Value |
|----------------------------------|--------|-------|---------|
| <u>Mayville</u> | | | |
| Physical education grades before | 4 | 3.478 | 1.313 |
| Physical education grades after | | 2.918 | |
| <u>NDSU</u> | | | |
| Physical education grades before | 5 | 3.288 | .230 |
| Physical education grades after | | 3.316 | |
| <u>UND</u> | | | |
| Physical education grades before | 5 | 3.006 | .229 |
| Physical education grades after | | 2.976 | |
| <u>VCSC</u> | | | |
| Physical education grades before | 11 | 3.205 | 1.801 |
| Physical education grades after | | 3.318 | |

In summary, there were differences shown for the grade-point averages of transfer students before and after changing colleges. The grade-point averages also differed significantly for the sub-groups used. The significant differences showed by the comparisons were:

1. The group of all women physical education transfer students had a higher grade-point average before transfer than for the first term after transfer.
2. The women physical education transfer students from four-year institutions had a higher grade-point average for the

first term after changing schools than they did before the change.

3. The grade-point averages for all women physical education transfer students increased after the first term at a new institution.
4. Women physical education transfer students from junior colleges had a higher grade-point average after changing schools than for the first term.
5. Grade-point averages after transfer were higher than the first term for the graduates from North Dakota State University and Valley City State College.
6. The group of all women physical education students obtained a higher grade-point average after transfer than they had before transfer.
7. The women physical education transfer students from four-year institutions had a higher grade-point average after changing schools than they had before the change.
8. The women physical education students' grade-point averages were significantly higher after transfer than they were before transfer at North Dakota State College and Valley City State College.
9. Physical education grade-point averages for all women physical education students were higher before transfer than they were after transfer.

10. Junior college women physical education students had a higher physical education grade-point average before changing schools than they had after the change.
11. Women physical education students from four-year institutions showed an increase in physical education grade-point averages after transfer.

Comparisons by Type of Institution From Which
the Graduate Transferred

There were two types of institutions from which the students transferred. The first type was the institution which offered a maximum of two years pre-professional curricula. This type has been known as the junior college. The second type of institutions, colleges and universities were those which offered a four-year curricula and a bachelor's degree. All areas were used to compare the records of students from these two types of institutions in Table 17.

These comparisons showed two significant differences. The grade-point averages of junior college women physical education transfer students were significantly higher before changing schools than the averages of transfer women from four-year institutions for the same period. The junior college women physical education transfer women also had a significantly higher physical education grade-point average before changing schools than the averages of transfer students from four-year institutions. No differences were noted for: (a) grade-point averages for first term after transfer; (b) grade-point averages after transfer; (c) cumulative grade-point averages; (d) the number of credit hours required to graduate; (f) cumulative physical education grade-point averages of

women physical education majors who went to a junior college and those students who attend more than one four-year institution.

TABLE 17

THE GRADE-POINT AVERAGES FOR JUNIOR COLLEGE WOMEN PHYSICAL EDUCATION
TRANSFER STUDENTS COMPARED TO THE TRANSFER STUDENTS FROM FOUR-
YEAR INSTITUTIONS FOR ALL AREAS

| | Number | Mean | t Value |
|---|--------|--------|---------|
| <u>Before transfer</u> | | | |
| Junior college transfer students | 17 | 2.944 | 3.520* |
| Four-year college transfer students | 11 | 2.316 | |
| <u>First semester after transfer</u> | | | |
| Junior college transfer students | 17 | 2.755 | .951 |
| Four-year college transfer students | 11 | 2.589 | |
| <u>After transfer</u> | | | |
| Junior college transfer students | 17 | 2.933 | .870 |
| Four-year college transfer students | 11 | 2.799 | |
| <u>Cumulative grade-point</u> | | | |
| Junior college transfer students | 17 | 2.912 | 1.696 |
| Four-year college transfer students | 11 | 2.644 | |
| <u>Number of credits</u> | | | |
| Junior college transfer students | 17 | 194.12 | .297 |
| Four-year college transfer students | 11 | 192.91 | |
| <u>Physical education before transfer</u> | | | |
| Junior college transfer students | 17 | 3.376 | 1.733* |
| Four-year college transfer students | 11 | 3.100 | |
| <u>Physical education after transfer</u> | | | |
| Junior college transfer students | 17 | 3.169 | .319 |
| Four-year college transfer students | 11 | 3.210 | |
| <u>Cumulative physical education</u> | | | |
| Junior college transfer students | 17 | 3.197 | .025 |
| Four-year college transfer students | 11 | 3.194 | |

*Significant "t" value

In conclusion, the junior college women physical education transfer students had higher grade-point averages before changing schools than the average of transfer students from four-year institutions for the same period. There were no differences in cumulative grade-point averages and averages after changing schools, for the transfer students.

CHAPTER IV

DISCUSSION

There was one problem which caused other problems while this study was being done. The problem was the different methods the writer had to use to gain permission to review transcripts.

The representation of transfer students from each college was unequal because not all schools would permit a review of student transcripts. All the physical education majors could be used if a department of a college gave permission to review student transcripts. However, only at Mayville State College, North Dakota State University, and the University of North Dakota was permission granted by a department of the school. At these colleges all the students who met the criteria were used in this study.

At Dickinson State College, Jamestown College, Minot State College and Valley City State College the students had to grant permission to review transcripts. Ninety-six letters were sent out to the women physical education majors who graduated from these four colleges. However, only thirty-one of the students responded to the request for permission to review records. Only two of the letters came back unanswered, so the rest of the letters must have reached the women majors. Why the other sixty-three requests were not answered was unknown to the writer. It could only be speculated that they did not want their transcripts reviewed or did not have enough interest to send them back.

All the women physical education majors from the first three colleges or universities were used in this study, but only one-third of the graduates of the other four institutions were used. The findings, then would be more characteristic of those institutions where all the records of women physical education majors were reviewed.

These methods, which were used to gain permission for review of transcripts, eliminated some of the colleges from certain statistical comparisons. There was only one transfer student from Dickinson State College and no transfer women from Jamestown College who returned the permission card. The grade-point averages for the transfer women physical education majors who graduated from these two colleges, then, could not be compared to the non-transfer or compared before or after changing schools. Two transfer students replied from Minot State College. This eliminated them from grade-point average comparisons for before and after changing schools.

Possibly, some of the comparisons which were made also produced an inflated "t" value. The writer believed this to be true in the case of Minot State College where only two transfer women were used.

The writer believed that there was a distinct difference between the women who transferred from four-year colleges and those women who went from a junior college to an institution of higher learning. It appeared that each group of students had a different reason to change schools.

It was assumed that the superior students at a four-year institution were influenced to remain until the four-year course was completed. The students, who just could not make the grades needed, dropped physical education as a major or left college completely. Those capable of

attaining good grades, but were dissatisfied, transferred to another college and succeeded scholastically. The women physical education majors who were dissatisfied had found it to their best interest to change schools. The reason, or reasons, for lack of success had been eliminated by the change.

The students who went from a junior college to an institution of higher learning were assumed to have been encouraged to make the change. The women who were going to major in physical education were encouraged to change because they had been successful scholastically.

Both the junior college transfer students and the students from four-year colleges were overall successful scholastically. Although they each had a different reason for changing schools, it was to their best interest to go to a different institution of higher learning.

The writer was interested in why the women physical education majors who transferred to North Dakota State University or Valley City State College did better after going there. The women who changed to any of the other colleges or universities did not increase their grade-point averages. The writer attributed this increase to differences in grading. It was assumed that the colleges or universities, where there was no increase, had approximately the same grading standards. The grading standards were also the same as those of junior colleges. Higher grades then were given to the women physical education majors at North Dakota State University and Valley City State College.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Problem

The basic question considered in this study was whether or not the North Dakota transfer women in physical education could succeed scholastically as compared to the non-transfer women. The women who attended two institutions were also compared before and after changing schools to determine their scholastic success during each period.

Methods and Procedure

Two groups of women physical education majors were studied: transfer and non-transfer. These two groups were divided by colleges from which graduation occurred. The transfer women were also divided by the type of institution attended before changing schools.

Basically, the women had to graduate with a physical education major. Graduation had to be from a North Dakota college or university and between the dates September 1, 1969, and June 11, 1971. All the students also had to graduate from a North Dakota high school and permission had to be granted to review their transcripts. Transfer women also had to meet the criteria: (1) come from a North Dakota institution; (2) earned a minimum of forty-five quarter or thirty semester credit hours before changing schools.

The final sample included those students who met the above criteria. That sample included twenty-eight transfer women physical education majors and sixty-six native women majors.

Essentially, the one basic criteria employed in this study for the appraisal and comparison of success was scholarship. The method of measuring the scholastic success of the transfer and non-transfer women physical education majors was computed by applying the analysis of covariance to the grade-point averages for each group and sub-group. This study was done in an operational setting and a significance level was set at .05 for the analysis.

Findings

1. Twenty-eight transfer and sixty-six native students composed the sample. Valley City State College had the most [11] transfer students and Jamestown had no transfer women physical education majors. The highest number of native students, twenty-nine, was at North Dakota State University and the lowest number [two] was at Valley City State College.

2. There were seventeen junior college women physical education majors who changed schools, and eleven women who attended more than one four-year institution. Five was the highest number of women who came from one institution, Wahpeton State School of Science. There were no women who transferred from Mayville State College, University of North Dakota, or Valley City State College.

3. There was no significant difference between the cumulative grade-point averages and credit hours required for graduation when the transfer and non-transfer women physical education majors were compared.

4. The comparisons, by colleges, of cumulative grade-point averages and physical education grade-point averages for the transfer and non-transfer women were not significant.

5. The transfer students at Mayville State College and Minot State College took a significantly higher number of credit hours to graduate than non-transfer students. There was no significant difference at the other colleges.

6. The grade-point average for the group of all transfer students decreased the first term after changing schools. The grade-point averages then increased significantly to a point where it was higher than the average before the change.

7. The women physical education majors who changed from one four-year institution to another increased their grade-point average the first term after transfer. The average of grades after changing schools was higher than before the change.

8. The grade-point averages of junior college women physical education majors did not increase or decrease significantly the first term after the students changed schools. However, the averages for all credits taken after the students transferred were significantly higher than just the first term at a new institution. In addition, the averages of these students while at a college or university were equal to their averages while at a junior college.

9. The grade-point averages of women physical education majors who transferred to North Dakota State University and Valley City State College increased significantly after matriculation. In fact, the increase was so great that the averages were much higher than they were before the students changed to these schools.

10. The physical education grade-point average for all transfer students decreased significantly after changing institutions. The same was true for the junior college transfer women.

11. Physical education grade-point averages for transfer students from four-year colleges or institutions increased significantly after changing institutions.

12. There were no significant differences between the physical education grade-point averages of the transfer students by colleges before and after changing schools.

13. The junior college transfer women had a significantly higher grade-point average than did the transfer women from four-year institutions for all work before changing schools and for physical education before the change.

14. There were no significant differences between (a) grade-point averages for first term after changing schools; (b) physical education grade-point averages at the second institution; (c) cumulative grade-point averages in physical education; (d) cumulative scholastic grade-point averages; and (e) the number of credit hours needed to graduate, for junior college transfer women and the women who went to more than one four-year institution.

Conclusions

The general null hypothesis, there is no difference between the scholastic success of transfer and non-transfer women physical education majors who graduated from a North Dakota college or university, was accepted. The following conclusions were believed to be justified by the analysis of the data obtained from the study:

1. Transfer women physical education majors were successful scholastically at North Dakota colleges.

2. All transfer women, and especially junior college transfer women, went through a period of adjustment for the first term after changing institutions.

3. Junior college women, who transferred, did so because they had succeeded scholastically at the junior college.

4. Women physical education majors, who attended two four-year institutions, did so because they were not successful at the first institution.

5. North Dakota State University and Valley City State College apparently have a different set of criteria upon which to base their grades. Therefore, the chances for a student to succeed scholastically would be significantly greater at these two institutions.

6. It appeared that not all the credit hours of transfer women physical education students were accepted at Mayville State College and Minot State College. Therefore, the chances of a transfer student finishing in four years was lower at these two institutions.

Recommendations

Based upon the findings of this study the following recommendations would produce a generally smoother articulation for transfer women physical education majors in North Dakota.

1. Careful consideration should be given the grading standards within North Dakota State University and Valley City State College to reflect to these students the real academic achievement.

2. Mayville State College and Minot State College need to evaluate the practices now in effect to assist the transfer students with articulation.

3. North Dakota physical education majors, high school counselors, and college advisors should review the results of this study and apply the results to their situation.

4. High school advisors could and should begin to recommend that women, who plan on getting a physical education major, go to a junior college the first two years of education.

5. Junior colleges in North Dakota should continue to encourage the scholastically successful women education majors to go on to an institution of higher learning.

6. Students who are dissatisfied at a four-year college should be encouraged to attend another institution.

Suggested Further Research

The limitations included in a study of this scope reduced the variables investigated. Several areas in which research should be encouraged are indicated below:

1. a similar study, using more students from each institution,
2. a study of women physical education majors who transfer and then withdraw from college,
3. a similar study, matching non-transfer and transfer students by some criteria, i.e., high school grade-point averages, American College test scores,
4. each college should do a study of problems inherent to their particular situations in relation to all women physical education transfer students.

APPENDIX A

A SAMPLE OF WORKSHEET WHILE FINDING RECORDS

COLLEGE _____

| NAME | HIGH SCHOOL | HOME ADDRESS | YEAR OF COLLEGE | TRANSFERRED FROM WHAT SCHOOL |
|------|-------------|--------------|-----------------|---------------------------------|
|------|-------------|--------------|-----------------|---------------------------------|

| | | | | |
|-------|-------|-------|-------|-------|
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |

APPENDIX B

A Sample of Card Used to Record Information

No. _____

Name _____ City _____ State _____

Colleges attended _____ Year _____

_____ Year _____

Credits Transferred First Year GPA 2nd Year GPA 3rd Year GPA 4th Year GPA Overall GPA

PE GPA PE GPA BEF-TR PE GPA AFT-TR PE Overall GPA GPA Before Trans. GPA After Trans.

APPENDIX C

Mayville, North Dakota
July 5, 1971

Dear Graduate:

Your help is needed to write a thesis on the scholastic differences of the transfer and non-transfer students in physical education.

Information is needed from your transcript. But, your permission is needed to see the transcript. All that you need to do is fill out the enclosed card and drop it in the mail. Please return by July 9, 1971.

The information obtained from your transcript will be held in strict confidence. Your name will not be used when writing the thesis.

Thank you for your cooperation.

Sincerely,

Bonnie Pearson

APPENDIX D

Mayville, North Dakota
July 5, 1971

Dear Graduate:

Your help is needed for a thesis on the scholastic differences between the transfer student and the non-transfer student. Please fill out the enclosed questionnaire and return in the envelope provided by July 9, 1971.

The information which you provide will be held in strict confidence. No names will be used when writing the thesis.

Thank you for your cooperation.

Sincerely,

Bonnie Pearson

DIRECTIONS

1 - 4. General Information

5. Grade point average = $\frac{\text{honor points}}{\text{total credits}}$

Honor points = Class credits X Grade point value

A= 4 points B= 3 points C= 2 points D= 1 point F=0

EXAMPLE:

| <u>Class Credit</u> | <u>Grade Points</u> | <u>Honor Points</u> |
|---------------------|---------------------|---------------------|
| 4 | A = 4 | 4 X 4 = 16 |
| 4 | B = 3 | 4 X 3 = 12 |
| 4 | C = 2 | 4 X 2 = 8 |
| <u>12</u> | | <u>36</u> |

$$\frac{\text{Honor Points}}{\text{Total Credits}} = \frac{36}{12} = 3.00 \text{ Grade point average}$$

6. Cumulative grade point average includes all credits regardless of when or where they were taken.
7. Physical education credits pertain to all subjects that have P.E. before the number. It includes Kinesology but, not biology or anatomy.
8. This question is for the transfer student, If you did not transfer leave it blank.

QUESTIONNAIRE

1. NAME _____
(Last) (First) (Middle)
2. Graduated from _____ High School.
3. Colleges attended:
_____ College for _____ quarters or semesters
_____ College for _____ quarters or semesters
_____ College for _____ quarters or semesters
4. Graduated from _____ College on _____
(date)
5. The following questions pertain to the grade point average (see directions) for each quarter or semester of college attendance.
 - A. Grade point average for the first year.
Fall _____
Winter _____
Spring _____
Summer _____
 - B. Grade point average for the second year.
Fall _____
Winter _____
Spring _____
Summer _____
 - C. Grade point average for the third year.
Fall _____
Winter _____
Spring _____
Summer _____
 - D. Grade point average for the fourth year.
Fall _____
Winter _____
Spring _____
Summer _____

E. Grade Point averages for extra sessions.

Fall _____
Winter _____
Spring _____
Summer _____

6. Cumulative grade point average at graduation _____ for _____
credit hours.

7. Grade point average for all PHYSICAL EDUCATION credits.

Number of hours or credits _____
Grade point average _____

8. The following questions apply only to the transfer student.

A. Physical Education grade point average
BEFORE transfer.

Number of credits _____
Grade point average _____

B. Physical Education grade point average
AFTER transfer.

Number of credits _____
Grade point average _____

C. Grade point average for all subjects taken
BEFORE transfer.

Number of credits _____
Grade point average _____

D. Grade point average for all subjects taken
AFTER transfer.

Number of credits _____
Grade point average _____

APPENDIX E

TABLE 18
"t" VALUES USED

| Degrees of Freedom | .05 Level* |
|--------------------|------------|
| 2 | 2.920 |
| 3 | 2.353 |
| 5 | 2.015 |
| 9 | 1.833 |
| 12 | 1.782 |
| 13 | 1.771 |
| 15 | 1.753 |
| 26 | 1.706 |
| 32 | 1.696 |
| 75 | 1.668 |
| 81 | 1.666 |
| 94 | 1.664 |

*Ferguson (15)

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